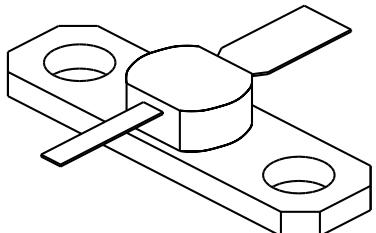


2001
1.0 Watt - 28 Volts, Class C
Microwave 2000 MHz

<p>GENERAL DESCRIPTION The 2001 is a COMMON BASE transistor capable of providing 1 Watts Class C, RF output power at 2000 MHz. Gold Metalization and diffused ballasting are used to provide high reliability and supreme ruggedness. The transistor uses a fully hermetic High Temperature Solder Sealed package.</p>	<p>CASE OUTLINE 55BT-1, Style 1</p> 
<p>ABSOLUTE MAXIMUM RATINGS</p> <p>Maximum Power Dissipation @ 25°C 5.0 Watts</p> <p>Maximum Voltage and Current</p> <p>BVces Collector to Emitter Voltage 50 Volts BVebo Emitter to Base Voltage 3.5 Volts Ic Collector Current 0.25 A</p> <p>Maximum Temperatures</p> <p>Storage Temperature - 65 to + 200°C Operating Junction Temperature + 200°C</p>	

ELECTRICAL CHARACTERISTICS @ 25 °C

SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN	TYP	MAX	UNITS
Pout	Power Out	F = 2 GHz	1.0			Watt
Pin	Power Input	Vcb = 28 Volts			0.125	Watt
Pg	Power Gain	Po = 1.0 Watts	9.0	9.5		dB
η_c	Collector Efficiency	As Above		40		%
VSWR₁	Load Mismatch Tolerance	F = 2 GHz, Po = 1.0 W			30:1	

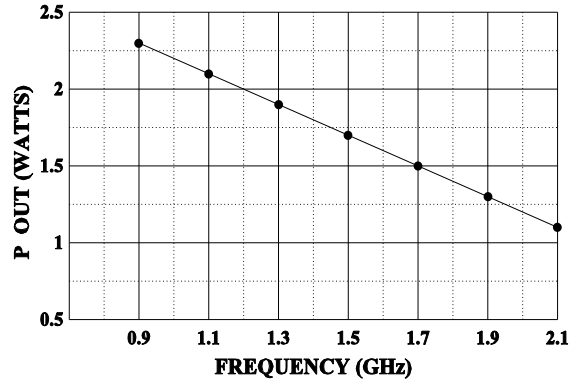
BVces	Collector to Emitter Breakdown	Ic = 10 mA	50			Volts
BVcbo	Collector to Base Breakdown	Ic = 1 mA	45			Volts
BVebo	Emitter to Base Breakdown	Ie = 1.0 mA	3.5			Volts
Icbo	Collector to Base Current	Vcb = 28 Volts			500	µA
h_{FE}	Current Gain	Vce = 5 V, Ic = 100 mA	20			
Cob	Output Capacitance	F = 1 MHz, Vcb = 28 V		4.0		pF
θ_{jc}	Thermal Resistance				35	°C/W

Issue August 1996

GHz TECHNOLOGY INC. RESERVES THE RIGHT TO MAKE CHANGES WITHOUT FURTHER NOTICE. GHz RECOMMENDS THAT BEFORE THE PRODUCT(S) DESCRIBED HEREIN ARE WRITTEN INTO SPECIFICATIONS, OR USED IN CRITICAL APPLICATIONS, THAT THE PERFORMANCE CHARACTERISTICS BE VERIFIED BY CONTACTING THE FACTORY.

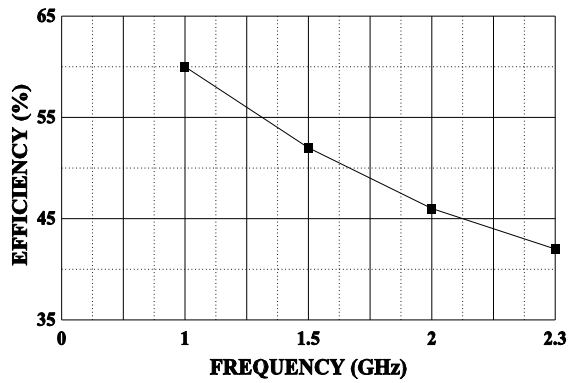
POWER OUTPUT VS FREQUENCY

V_{cc}=28V, P_{in}=0.125W



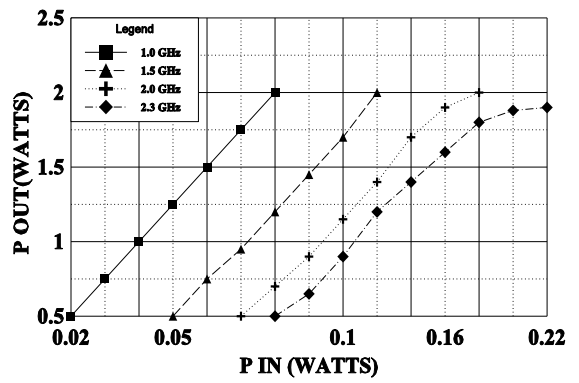
EFFICIENCY VS FREQUENCY

V_{cc}=28V



POWER OUTPUT VS POWER INPUT

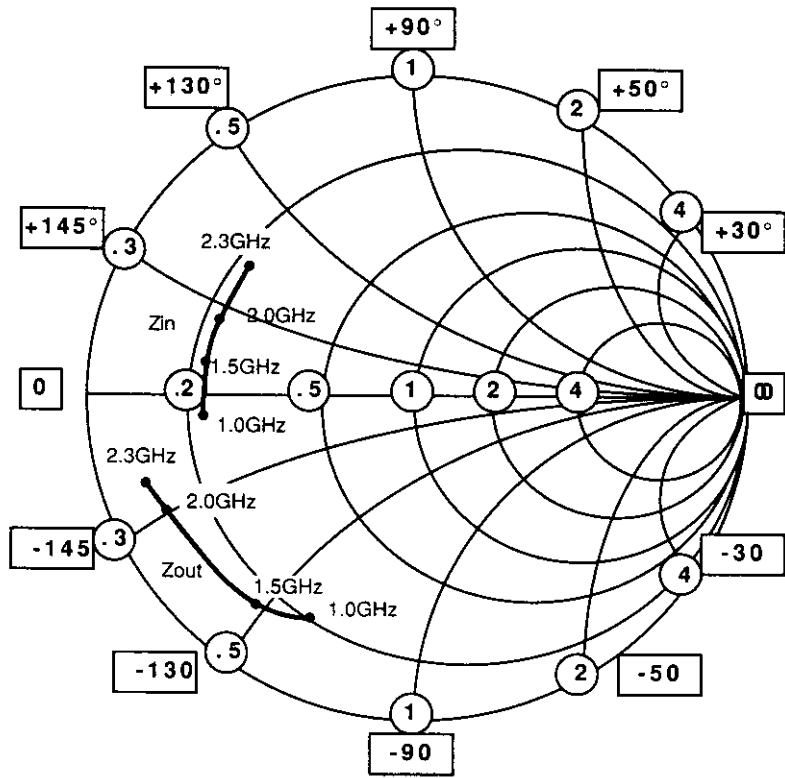
V_{cc}=28V



SMITH CHART

2001

NORMALIZED IMPEDANCE AND ADMITTANCE COORDINATES

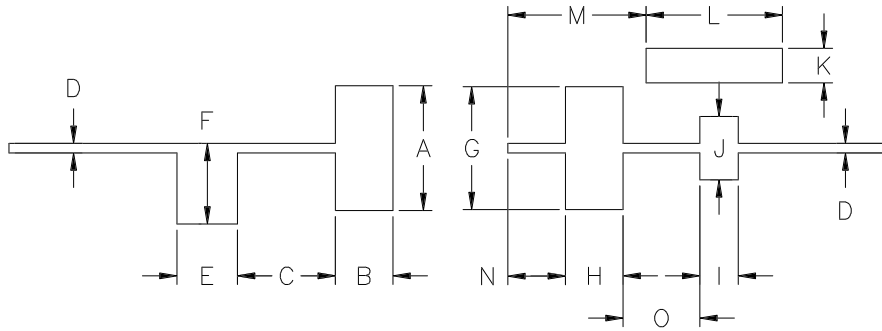


NORMALIZED TO A 50 OHM SYSTEM.

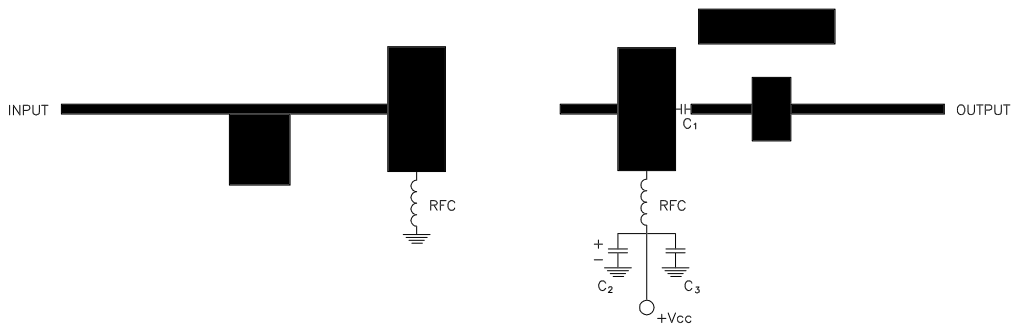
REVISIONS

ZONE	REV	DESCRIPTION	DATE	APPROVED
------	-----	-------------	------	----------

DIM	INCHES
A	.650
B	.300
C	.510
D	.050
E	.315
F	.420
G	.640
H	.300
I	.200
J	.330
K	.180
L	.710
M	.720
N	.300
O	.400



2001 TEST AMPLIFIER
F = 2.0 GHz



- = MICROSTRIP ON 15 MIL DUROID Er = 2.3
- C₁ = 3.6 ATC A CHIP
- C₂ = 180pf ATC B CHIP
- C₃ = 10 MFD 50V



CHz TECHNOLOGY

CAGE OPJR2	DWG NO. 2001	REV A
SCALE 1/1	SHEET	